Return to Use Initiative
2007 Demonstration Project

Seattle Municipal Landfill:
Kent, Washington

Barriers:
Property transfer issues and topographical challenges

Solution:
Collaboration with a land use attorney with Superfund experience; study to explore feasibility of moving aboveground pipes

Before:
Capped landfill with vegetated geomembrane cover and extensive aboveground piping system

After:
Undetermined beneficial uses for the City of Kent

THE SITE: The Seattle Municipal Landfill (Kent Highlands) site includes approximately 110 acres and is located in the City of Kent, Washington, about 14 miles south of Seattle. Landfill operations began in 1968 when the landfill was situated in a deep ravine that sloped downward from west to east toward the Green River. Waste disposal at the site began in 1968. Solid waste was placed in lifts directly upon native soil and covered with soil taken from a borrow area north of the landfill. Landfilling started at the bottom of the ravine at the east end of the site and continued until the entire ravine was filled, leaving a terraced slope at the east end of the site. Landfilling stopped in December 1986. Piping was installed along the walls of the ravine to intercept springs and collect leachate. This piping was eventually covered by waste. The majority of material accepted at the landfill was municipal waste, industrial waste, and construction and maintenance waste that was delivered to the site following closure of the nearby Midway Landfill in 1983. At the time of its closure in 1986, the Kent Highlands Landfill contained approximately eight million cubic yards of waste. Runoff from the landfill led to the contamination of ground water with volatile organic compounds (VOCs) and heavy metals. Landfill gas also contained VOCs and presented a threat to local residents. The site was listed on EPA's National Priorities List in 1990. Construction of the remedy was completed in September 1995, and included installing a fence around the site, grading the site to create drainage slopes, capping the landfill, installing a storm water and surface water drainage system, installing a leachate collection system, and installing a landfill gas collection system. Ground water monitoring at the site is ongoing and is conducted by the Washington Department of Ecology, which acts as the lead regulatory agency.

THE OPPORTUNITY: The City of Seattle and Seattle Public Utilities, which maintain the site, are interested in returning the site to beneficial use. The reuse of the site could provide significant benefits to the growing City of Kent.

THE BARRIERS: The remedy currently includes a complex system of aboveground methane pipes that would prevent reuse of the landfill surface. The landfill's steep slopes present topographical challenges that may limit the type of development feasible for Kent Highlands. In addition, the City of Seattle has a fiduciary obligation to sell the property at fair market value, which could result in a higher sale price that could delay reuse.

THE SOLUTION: Beginning in May 2006, EPA coordinated an eight-month reuse evaluation and planning study that included staff from the City of Seattle and the City of Kent. During this period, EPA and staff from both cities evaluated site conditions and potential barriers to reuse. EPA and staff from the City of Seattle and City of Kent identified the next steps necessary to support

future site uses, including the possible need for a remedy component relocation feasibility study, which would address problems posed by the existing piping system. The resulting report creates a framework for thinking about a range of potential uses for the site. Development of effective institutional controls will be a critical next step to ensure continued protection of public health and the environment. The reuse planning report also recommends that the City of Seattle retain an attorney who specializes in complex land transfers and could facilitate the process.

THE SITE NOW: The landfill portion of the site is completely capped with an engineered system including vegetative cover. The gas collection and treatment system is fully operational and automated. Conducting a remedy component relocation feasibility study would help the City of Kent and City of Seattle consider and identify future use opportunities the site. The study would need to evaluate the technical feasibility and costs associated with relocating multiple remedy components, including methane pipes and vents. Collaborative work between the City of Seattle and the City of Kent could help clarify anticipated future uses of properties surrounding the site, and could inform opportunities to expand the acreage of contiguous developable land at the site. EPA is committed to working with the local community to understand what future actions may be needed to ensure that the remedy remains protective of human health and the environment.

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